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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,783

06/13/2006

Koji Moriyama

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ALEXANDRIA, VA 22314

EXAMINER

HAUTH, GALEN H

ART UNIT

PAPER NUMBER

4111

NOTIFICATION DATE

DELIVERY MODE

06/11/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/582,783	Applicant(s) MORIYAMA ET AL.	
	Examiner GALEN HAUTH	Art Unit 4111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/13/2006, 02/08/2007</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Chu (PN 4877840).

a. With regards to claim 1, Chu teaches a method for making a polyolefin particulate by blending molten polyolefin with a modifying agent, cooling the resin to a temperature below the melting temperature of the polyolefin while still mixing, and extruding the blend as pellets in crumble form (abstract). The polyolefin is melted in the first section of the extruder (col 4 ln 5-8). Chu teaches using linear low density polyethylene (col 5 example 1) which is flexible.

b. With regards to claim 7, Chu teaches forming particulate from the polyolefin through the process described above, which uses a flexible polyolefin in linear low density polyethylene (col 5 example 1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (PN 4877840) as applied to claim 1 above.

c. With regards to claim 2 with respect to claim 1 above, Chu teaches that the extruder varies in temperature from 200 degrees Celsius in the first zone at the beginning of the extruder to 65 degrees Celsius in the cooling zone at the end of the extruder (col 6 ln 17-18), but failed to positively teach a cooling rate of 5-300 °C/min. However, absent any showing of unexpected benefit, the cooling rate claimed by the applicant would have been obvious in the art as such is taken to be a **result effective variable**, and would have been routinely optimized by those versed in the art.

6. Claims 3, 4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (PN 4877840) as applied to claim 1 above, and further in view of Minami et al. (Pub No 2003/0069320).

d. Chu teaches a method for making a polyolefin particulate by blending molten polyolefin with a modifying agent, cooling the resin to a temperature below the melting temperature of the polyolefin while still mixing, and extruding

the blend as pellets in crumble form (abstract). The polyolefin is melted in the first section of the extruder (col 4 ln 5-8). Chu fails to teach the properties of the polyolefin or the polymerization techniques used to create the polyolefin.

e. Minami teaches a 1-butene based polymer having superior flexibility, low stickiness, and transparency formed with a melting point between 0-100 degrees Celsius with a stereo regularity index of at most 20 defined by $\{(mmmm)/(mmrr+rmmr)\}$ (abstract). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polyolefin taught by Minami in the process taught by Chu to develop a granule with superior flexibility, low stickiness, and transparency (abstract) as well as superior mechanical strength, high heat resistance, and low price (§ 0006).

f. With regards to claim 3, the 1-butene based copolymer taught by Minami is formed from an alpha olefin having 3 to 20 carbon atoms (§ 0038). The polymer is polymerized using a metallocene catalyst (§ 0202).

g. With regards to claim 4, Table 3 on page 33 shows Example 14 of the 1-butene based polymer has a melting point of 69.9 degree Celsius and a crystallization time of 8 minutes.

h. With regards to claim 6, Table 3 on page 33 shows Example 14 of the 1-butene based polymer has a stereo regularity index $((mmmm)/(mmrr+rmmr))$ of 10.

7. Claims 3, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chu (PN 4877840) as applied to claim 1 above, and further in view of Miller (PN 6469188).

- i. Chu teaches a method for making a polyolefin particulate by blending molten polyolefin with a modifying agent, cooling the resin to a temperature below the melting temperature of the polyolefin while still mixing, and extruding the blend as pellets in crumble form (abstract). The polyolefin is melted in the first section of the extruder (col 4 ln 5-8). Chu fails to teach the properties of the polyolefin or the polymerization techniques used to create the polyolefin.
- j. Miller teaches a polyolefin system producing elastomeric polypropylene (abstract) which is useful for its utility and properties of recyclability, chemical resistivity, thermal stability, electrical conductivity, optical transparency, and processability (col 9 ln 47-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the polyolefin of Miller in the polyolefin process of Chu for the reasons stated prior including increased processability.
- k. With regards to claim 3, the elastomeric polyolefin produced by Miller is attainable from alpha olefins with 3 to 10 carbons (col 2 ln 27-29, a alk-1-ene is a alpha olefin) with a metallocene (abstract).
- l. With regards to claim 5, the elastomeric polypropylene produced by Miller in Example 48 col 43-44 displayed in Table 5 shows that entry 9 is a polypropylene with a (mm) of 76.7% by mole by adding the percentage of all groups containing the pattern mm.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 7:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sam Yao can be reached on (571)272-1224. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Sam Chuan C. Yao/
Supervisory Patent Examiner, Art Unit 4111